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Amendments to the Specification:

Please replace the paragraph beginning at page 2, line 31 with the following amended paragraph.

FIG. 3A shows this effect by comparing two variants of the letter "R" from the Type 1 SanvitoMM font. The SanvitoMM font contains four designs: a light 6 point design, a bold 6 point design, a light 72 point design and a bold 72 point design. The dotted outline 300 represents a glyph outline using the SanvitoMM light 6 point design, and the solid outline 305 represents a glyph outline using the SanvitoMM light 72 point design. For illustrative purposes, the outlines 300, 305 have been scaled to a common size so that the relative differences are more easily compared and have a common origin 310. The glyph outline 305 rendered at the 72 point size is positioned to the left (relative to the outline 300) and has a relatively smaller advance width 315 than the advance width 320 of the glyph outline 300 rendered at the 6 point size. The glyph outline 300 intended for the smaller point size has a relatively larger overall width and wider strokes. FIG. 3B shows the same two glyph outlines 300, 305 with their origins adjusted so that just the outline design differences may more easily be compared.

Please replace the paragraph beginning at page 10, line 18 with the following amended paragraph.

In this example, the Type 1 CronosMM font (step 510) is used. A scaled stem width is calculated by scaling the font's standard stem width to the size at which the glyph is to be rendered (step 515). In this example, the font has [[as]] a standard stem width of 46/1000 and the glyph is to be rendered at a size of 26 pixels per em. The scaled stem width can be calculated by multiplying the standard stem width by the size, *i.e.*, 46/1000 * 26 = 1.196, which may be rounded to the nearest ¼ pixel, and therefore the scaled stem width for the glyph is 1.25 device pixels.

Please replace the paragraph beginning at page 11, line 19 with the following amended paragraph.

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The relationship between a scaled stem width and an adjusted stem width can be implemented as a table, such as the tables illustrated in FIGS. 8A-G. Such tables are useful when implementing the technique in a computer program. FIG. 8A shows a table that can be used to determine an initial adjustment value when a glyph to be rendered is in a Type 1 font to be displayed in gray scale. As an example, consider a glyph having a scaled stem width of $12/16^{th}$ of a device pixel. Using the table 800, in particular row 807[[804]], an initial adjustment value is $4/16^{th}$ or 0.25 of a pixel, per stroke edge. The same value can be found by reference to the graph shown in FIG. 7B; at a scaled stem width of $12/16^{th}$ or 0.75. The difference 730 between the line 720 and the stepped line 725 is 0.50 of a pixel, which represents the adjustment per stroke. The adjustment per stroke edge is therefore ½ of this amount, and is 0.25 of a pixel.

Please replace the paragraph beginning at page 16, line 10 with the following amended paragraph:

The blurring effect can occur when, pre-adjustment, the outline of the glyph is hinted to align one or more edges of the outline to the device resolution grid. For example, referring to FIG. 9A, a high resolution bitmap representation 900 of a glyph corresponding to the character "R" is shown. The glyph is associated with the Adobe Type 1 CronosMM font and is to be rendered at a 26 pixels per em size. The glyph outline 902 that was rendered as the bitmap representation 900 is also depicted for illustrative purposes. The glyph outline 902 was hinted such that the left edge 904 of the glyph outline 902 aligns to the device resolution grid 906. The glyph outline 902 is hinted according to, for example, the black edge hinting policy described in pending U.S. Patent Application Serial No. 09/739,537 09/739,587, filed December 15, 2000, by T. Dowling and R. D. Arnold, entitled "Hinted Stem Placement on High Resolution Pixel Grid", the entire contents of which are hereby incorporated by reference. Referring to FIG. 9B, the original (*i.e.*, unadjusted) gray scale representation 908 of the glyph downsampled from the bitmap 900 is shown. The left edge of the vertical stem 910 is represented by maximum density (*i.e.*, black) pixels.

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Please replace the paragraph beginning at page 19, line 28 with the following amended paragraph:

The second and third columns 804 and 806 are the X and Y grid ratios respectively. The values in these columns indicate, at a given scaled stem width, the grid ratio for a high resolution bitmap that will be rendered to represent the glyph. In this particular table, at certain scaled stem widths the grid ratio is 4 x 4 (*i.e.,* 4 fine grid pixels in the x and y directions for each device pixel), whereas at other scaled stem widths the grid ratio is 8 x 8. The fourth column 808 indicates the hint grid ratio that is the ratio of the grid to which the glyph outline is hinted to, relative to the device resolution grid. <u>The sixth column 809 indicates the hinting policy.</u> The ~~fifth and~~ sixth <u>and seventh</u> columns 810 and 812 indicate the alignment in the x and y directions. For example, referring to row 803, the x alignment value is 8 and the hint grid ratio is 8. That is, the glyph outline was hinted to a fine grid having a grid ratio of 8 x 8 as compared to the device resolution grid. The position of the glyph outline was aligned to $1/8^{th}$ of a device pixel (*i.e.,* aligned to the fine grid). If, for example, the x alignment value is 1, that indicates the position of the glyph outline was aligned to the device resolution grid.

Please replace the paragraph beginning at page 21, line 13 with the following amended paragraph:

Referring to FIGS. 11A-G, an example of adjusting the density values of a glyph that is generating by anisotropic anti-aliasing is shown. FIG. 11A shows a high resolution bitmap representation 1100 of a glyph representing the character "R", in a TrueType ArialMT font at a size of 16 ppem. For illustrative purposes, the high resolution pixels in the y direction are stretched vertically to fit the coarse grid corresponding to the device resolution. The grid ratio is 8 x 2, *i.e.,* 8 fine grid pixels per device pixel in the x direction and 2 fine grid pixels per device pixel in the y direction. The scaled stem width is 1.4 pixels. Referring to FIG. <u>8C</u>[[8D]], an initial adjustment value can be determined for the scaled stem width by rounding to 11/8ths (*i.e.,* 1.375). Per row 840 (*i.e.,* the row corresponding to a scaled stem width of $11/8^{th}$), the initial adjustment value is $1/16^{th}$ of a device pixel. There is no "carry" in the y direction, per the Y

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Carry column 842, and accordingly the edge detector does not detect horizontal edges aligned with device pixel boundaries, however, horizontal edges that are *not* aligned with device pixel boundaries are detected. In some implementations, not having carry in the y direction can keep horizontal stems sharp, although at the expense of the stem not being darkened in the y direction.

Please replace the paragraph beginning at page 23, line 28 with the following amended paragraph:

Referring again to FIG. 8B, column 852 indicates a low initial density value, column 854 indicates a low initial adjustment value, column 856 indicates a high initial density value and column 858 indicates a high initial adjustment value. If column 850 indicates that there is no asymmetric darkening (*i.e.*, has a value of 0), then the values in the remaining four columns <u>852, 854, 856 and 858</u><s>852-858</s> are all 0, for example, rows 1-5. With respect to FIGS. 8C-G, these columns are not shown because there was no asymmetric adjusting, and the values in these five columns would have been all zeros.

Please replace the paragraph beginning at page 25, line 23 with the following amended paragraph:

Referring again to the tables in FIGS. 8A-G, a number of parameters for rendering a glyph can be decided based on a scaled stem width of the glyph. For example, consider row 804 in FIG. 8A and the corresponding row 805 in FIG. 8B. A renderer that is <u>to</u> render a glyph in a Type 1 font in gray scale having a scaled stem width of 12/16ths, can determine from FIGS. 8A and 8B the following rendering parameters:

- x and y grid ratios
- hint grid ratio
- hinting policy
- x and y alignment
- x and y offset amounts
- whether to carry adjustment in the x and y directions

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- an initial adjustment value

- whether to asymmetric adjust

- a "low" initial adjustment value for a low density value if asymmetrically adjusting

- a "high" initial adjustment value for a high density value if asymmetrically adjusting